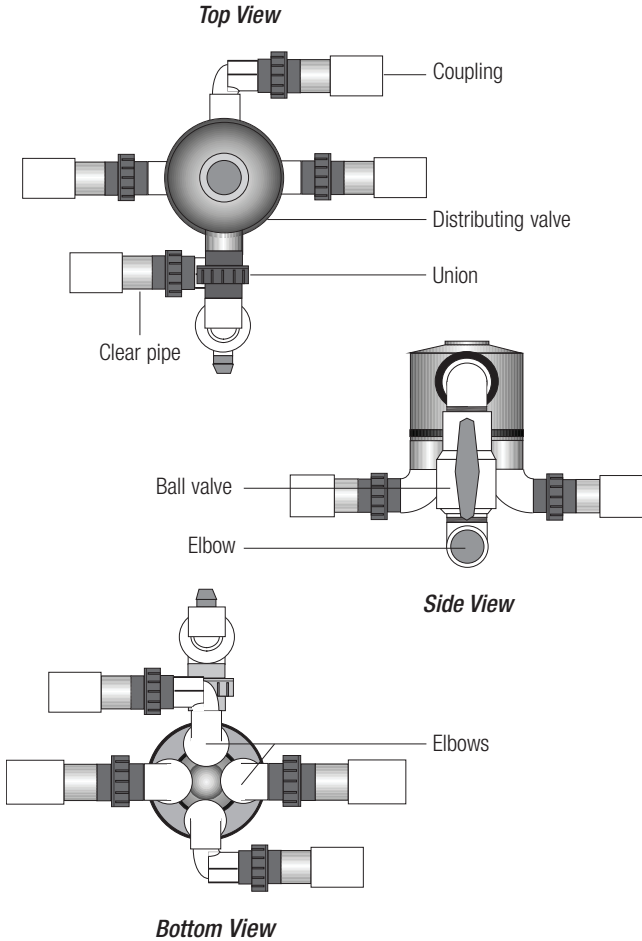# Distributing Valves

Applications

Automatic Distributing Valve Assemblies are used to pressurize multiple zone distribution systems including textile filters, sand filters and drainfields.

Top View

- Coupling
- Distributing valve
- Union
- Clear pipe

- Ball valve
- Elbow

Side View

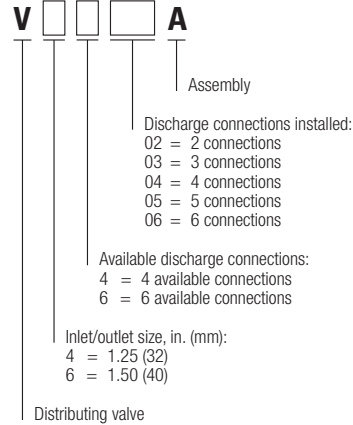

- Elbows

Bottom View

General

Orenco's Automatic Distributing Valve Assemblies are mechanically operated and sequentially redirect the pump's flow to multiple zones or cells in a distribution field. Valve actuation is accomplished by a combination of pressure and flow. They allow the use of smaller horsepower pumps on large sand filters and drainfields. For example, a large community drainfield requiring 300 gpm (18.90L/sec) can use a six-line valve assembly to reduce the pump flow rate requirement to only 50 gpm (3.14L/sec).

Orenco only warrants Automatic Distributing Valves when used in conjunction with High-Head Effluent Pumps with Biotube® pump vaults to provide pressure and flow requirements, and to prevent debris from fouling valve operation. An inlet ball valve, a section of clear pipe, and a union for each outlet are provided for a complete assembly that is easy to maintain and monitor. Ideal valve location is at the high point in the system. Refer to Automatic Distributing Valve Assemblies (NTP-VA-1) for more information.

Standard Models

V4402A, V4403A, V4404A, V4605A, V4606A, V6402A, V6403A, V6404A, V6605A, V6606A.

Product Code Diagram

V ☐ ☐ ☐ **A**

Assembly

Discharge connections installed:
02 = 2 connections
03 = 3 connections
04 = 4 connections
05 = 5 connections
06 = 6 connections

Available discharge connections:
4 = 4 available connections
6 = 6 available connections

Inlet/outlet size, in. (mm):
4 = 1.25 (32)
6 = 1.50 (40)

Distributing valve

Materials of Construction

All Fittings	Sch. 40 PVC per ASTM specification
Unions	Sch. 80 PVC per ASTM specification
Ball Valve	Sch. 40 PVC per ASTM specification
Clear Pipe	Sch. 40 PVC per ASTM specification

Specifications

Model	Inlet Size, in. (mm)	Outlets Size, in. (mm)	Flow Range, gpm (L/sec)	Max Head, ft (m)	Min. Enclosure*
V4402A	1.25 (32)	1.25 (32)	10 – 40 (0.63 – 2.52)	170 (51.816)	VB1217
V4403A	1.25 (32)	1.25 (32)	10 – 40 (0.63 – 2.52)	170 (51.816)	VB1217
V4404A	1.25 (32)	1.25 (32)	10 – 40 (0.63 – 2.52)	170 (51.816)	VB1217
V4605A	1.25 (32)	1.25 (32)	10 – 40 (0.63 – 2.52)	170 (51.816)	RR2418
V4606A	1.25 (32)	1.25 (32)	10 – 40 (0.63 – 2.52)	170 (51.816)	RR2418
V6402A	1.50 (38)	1.50 (38)	15 – 100 (0.95 – 6.31)	345 (105.16)	RR2418
V6403A	1.50 (38)	1.50 (38)	15 – 100 (0.95 – 6.31)	345 (105.16)	RR2418
V6404A	1.50 (38)	1.50 (38)	15 – 100 (0.95 – 6.31)	345 (105.16)	RR2418
V6605A	1.50 (38)	1.50 (38)	15 – 100 (0.95 – 6.31)	345 (105.16)	RR2418
V6606A	1.50 (38)	1.50 (38)	15 – 100 (0.95 – 6.31)	345 (105.16)	RR2418

* When using an enclosed basin, choose the next larger-sized diameter.

Table 1. Automatic Distributing Valve Assembly Headloss Equations

Model Series	Equation	Operating Range, gpm (L/sec)
V4400A	$H_L = 0.085 \times Q^{1.45}$	10 - 40 (0.63 – 2.52)
V4600A	$H_L = 0.085 \times Q^{1.58}$	10 - 25 (0.63 – 1.57)
V6400A	$H_L = 0.0045 \times Q^2 + 3.5 \times (1 - e^{-0.060})$	15 - 70 (0.95 – 4.42)
V6600A	$H_L = 0.0049 \times Q^2 + 5.5 \times (1 - e^{-0.10})$	15 - 70 (0.95 – 4.42)